



Weatherford®

REAL RESULTS

Expandable Sand Screens (ESS®) Take Production Beyond Expectations for Seven North Sea Wells

Objectives

- Complete seven 8 1/2-in. openhole gas wells with a narrow pore/fracture gradient window. Small particle size and the unconsolidated nature of formation sands presented a significant risk of formation damage and high skins. Retention tests of many competitor products had proved unsuccessful for these wells, and gravel-pack placement was likely to fracture the formation.
- Effective, robust sand control.
- Minimize formation damage and skin of the sand-control completion.
- Minimize the potential for base-to-shore logistical issues.
- Intersect, complete, and produce multiple zones in two of the wells.

Results

- Two 7-in. ERC™ expandable reservoir completion systems (for multizone wells) and five 5 1/2-in., 120-micron ESS expandable sand screen systems were installed. The compliant nature of the ESS system, along with 120-micron mesh (finer than those available from competitors) proved to be a winning combination, with 93 to 98 percent of sands being retained by the screens, minimizing fines production.
- All seven wells were drilled and completed in 150 days.

Value to Client

- Production exceeded what was expected—all wells exhibited good productivity with low skins and zero sand production.
- All logistical issues were overcome, with no time spent waiting for delivery of the additional pumping equipment that would have been required with gravel-packing or frac-packing.



Weatherford's ESS technology is a better option for a narrow window between pore and frac gradients. Traditional openhole gravel packs are susceptible to fracturing the formation whereas ESS technology will not, ensuring a stabilized wellbore and a low-skin completion with excellent sand control. Expansion is achieved from the surface with proprietary compliant expansion tools.

Location

A/B gas field, The Netherlands

Well Type

Gas producer

Rig

Jackup

Sands

- Fine: d50 of $\approx 63\mu\text{M}$ and 30% of sands $<45\mu\text{M}$

Hole Size

8-1/2 in.

Depths

- Wells: 1,500 to 2,200 ft (457 to 671 m)
- Water: 90 to 150 ft (27 to 46 m)

Products/Services

- ESS expandable sand screen system
- ERC expandable reservoir completion system

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